

EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|-----------------------|---|------------------|---------|------------------|
| L1 | 151 | 556/404 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 12:39 |
| L2 | 173 | 556/405 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 12:39 |
| L3 | 290 | I1 or I2 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 12:40 |
| L4 | 93 | I3 and film | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 12:40 |
| L5 | 57 | I3 and copper | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 12:40 |
| L6 | 33 | I5 and film | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 12:56 |
| L7 | 2 | copper undercoat film | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 12:57 |
| L8 | 1213 | undercoat film | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 12:57 |
| L9 | 185 | I8 and copper | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 12:57 |

EAST Search History

| | | | | | | |
|-----|---------|----------------|---|-----|----|------------------|
| L10 | 36 | I8 same copper | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 13:00 |
| L11 | 7 | I10 and Si | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 12:57 |
| L12 | 2786331 | si or silicone | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 13:00 |
| L13 | 12 | I10 and I12 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | ADJ | ON | 2006/09/07 13:00 |

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| NEWS 3 FEB 27 | New STN AnaVist pricing effective March 1, 2006 |
| NEWS 4 MAY 10 | CA/CAplus enhanced with 1900-1906 U.S. patent records |
| NEWS 5 MAY 11 | KOREAPAT updates resume |
| NEWS 6 MAY 19 | Derwent World Patents Index to be reloaded and enhanced |
| NEWS 7 MAY 30 | IPC 8 Rolled-up Core codes added to CA/CAplus and USPATFULL/USPAT2 |
| NEWS 8 MAY 30 | The F-Term thesaurus is now available in CA/CAplus |
| NEWS 9 JUN 02 | The first reclassification of IPC codes now complete in INPADOC |
| NEWS 10 JUN 26 | TULSA/TULSA2 reloaded and enhanced with new search and and display fields |
| NEWS 11 JUN 28 | Price changes in full-text patent databases EPFULL and PCTFULL |
| NEWS 12 JUL 11 | CHEMSAFE reloaded and enhanced |
| NEWS 13 JUL 14 | FSTA enhanced with Japanese patents |
| NEWS 14 JUL 19 | Coverage of Research Disclosure reinstated in DWPI |
| NEWS 15 AUG 09 | INSPEC enhanced with 1898-1968 archive |
| NEWS 16 AUG 28 | ADISCTI Reloaded and Enhanced |
| NEWS 17 AUG 30 | CA(SM)/CAplus(SM) Austrian patent law changes |
| NEWS EXPRESS | JUNE 30 CURRENT WINDOWS VERSION IS V8.01b, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 26 JUNE 2006. |
| NEWS HOURS | STN Operating Hours Plus Help Desk Availability |
| NEWS LOGIN | Welcome Banner and News Items |
| NEWS IPC8 | For general information regarding STN implementation of IPC 8 |
| NEWS X25 | X.25 communication option no longer available |

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* * * * * * * * * STN Columbus * * * * * * * * * * *

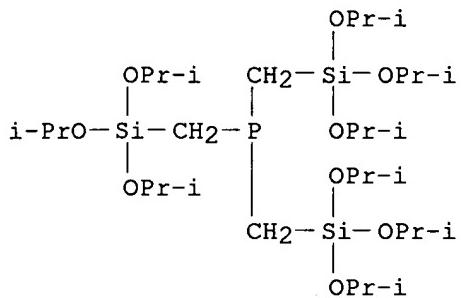
FILE 'HOME' ENTERED AT 10:59:34 ON 07 SEP 2006

=> file reg
COST IN U.S. DOLLARS

| | |
|------------------|---------------|
| SINCE FILE ENTRY | TOTAL SESSION |
|------------------|---------------|

MF methylethoxy)-6-[[tris(1-methylethoxy)silyl)methyl]-, homopolymer (9CI)
(C₃₀ H₆₉ O₉ P Si₃)_x
CI PMS

CM 1



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):end

=>

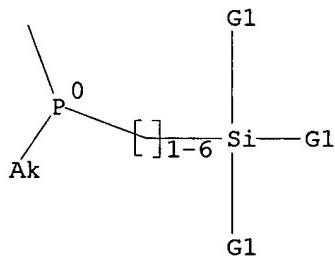
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L7 STRUCTURE UPLOADED

=> d 17

L7 HAS NO ANSWERS

L7 STR



G1 MeO, EtO, n-PrO, i-PrO, n-BuO, i-BuO, s-BuO, t-BuO, NH, NH₂, X

Structure attributes must be viewed using STN Express query preparation.

=> s 17 sub=16

ENTER SUBSET SEARCH SCOPE - SAMPLE, FULL, RANGE, OR (END): full

FULL SUBSET SEARCH INITIATED 11:10:39 FILE 'REGISTRY'

FULL SUBSET SCREEN SEARCH COMPLETED - 59 TO ITERATE

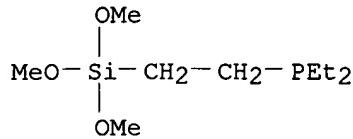
100.0% PROCESSED 59 ITERATIONS
SEARCH TIME: 00.00.01

22 ANSWERS

L8 22 SEA SUB=L6 SSS FUL L7

=> d 18 scan

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Phosphine, diethyl[2-(trimethoxysilyl)ethyl]- (9CI)
MF C₉ H₂₃ O₃ P Si

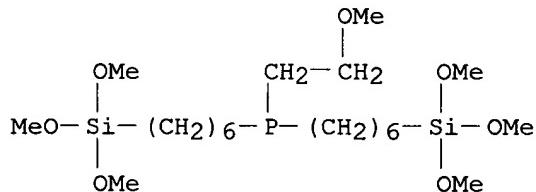


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

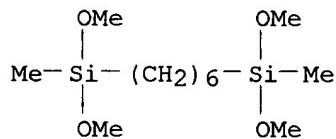
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):21

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN 2,18-Dioxa-10-phospha-3,17-disilanonadecane, 3,3,17,17-tetramethoxy-10-(2-methoxyethyl)-, polymer with 3,10-dimethoxy-3,10-dimethyl-2,11-dioxa-3,10-disiladodecane (9CI)
 MF (C21 H49 O7 P Si2 . C12 H30 O4 Si2)x
 CI PMS

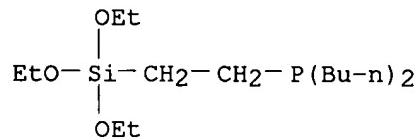
CM 1



CM 2



L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Phosphine, dibutyl[2-(triethoxysilyl)ethyl]- (9CI)
 MF C16 H37 O3 P Si

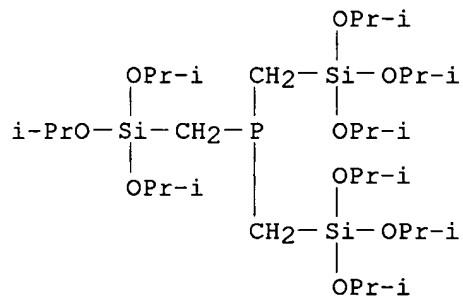


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN

IN 3,9-Dioxa-6-phospho-4,8-disilaundecane, 2,10-dimethyl-4,8,8-tetrakis(1-methylethoxy)-6-[tris(1-methylethoxy)silyl]methyl-, homopolymer (9CI)
MF (C₃₀ H₆₉ O₉ P Si₃)_x
CI PMS

CM 1

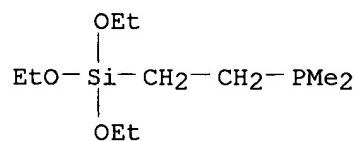


L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Phosphine, dimethyl[2-(trifluorosilyl)ethyl]- (8CI, 9CI)
MF C₄ H₁₀ F₃ P Si

F₃Si—CH₂—CH₂—PMe₂

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

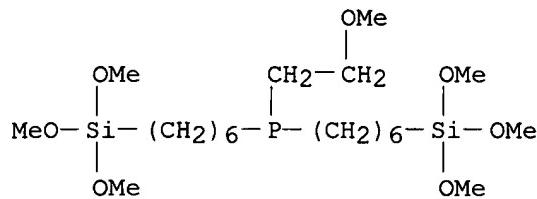
L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Phosphine, dimethyl[2-(triethoxysilyl)ethyl]- (9CI)
MF C₁₀ H₂₅ O₃ P Si



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN 2,18-Dioxa-10-phospho-3,17-disilanonaadecane, 3,3,17,17-tetramethoxy-10-(2-methoxyethyl)-, homopolymer (9CI)
MF (C₂₁ H₄₉ O₇ P Si₂)_x
CI PMS

CM 1

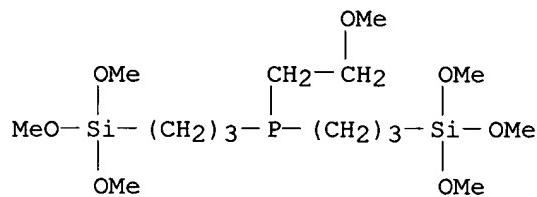


L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Phosphine, dimethyl[(trichlorosilyl)methyl]- (9CI)
 MF C3 H8 Cl3 P Si

$\text{Cl}_3\text{Si}-\text{CH}_2-\text{PMe}_2$

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN 2,12-Dioxa-7-phospho-3,11-disilatridecane, 3,3,11,11-tetramethoxy-7-(2-methoxyethyl)- (9CI)
 MF C15 H37 O7 P Si2
 CI COM



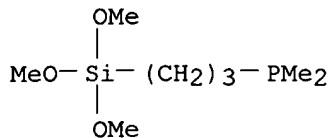
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Phosphine, dimethyl[2-(trichlorosilyl)ethyl]- (8CI, 9CI)
 MF C4 H10 Cl3 P Si

$\text{Cl}_3\text{Si}-\text{CH}_2-\text{CH}_2-\text{PMe}_2$

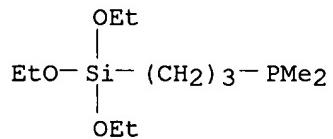
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Phosphine, dimethyl[3-(trimethoxysilyl)propyl]- (9CI)
 MF C8 H21 O3 P Si



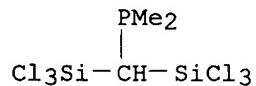
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Phosphine, dimethyl[3-(triethoxysilyl)propyl]- (9CI)
 MF C11 H27 O3 P Si



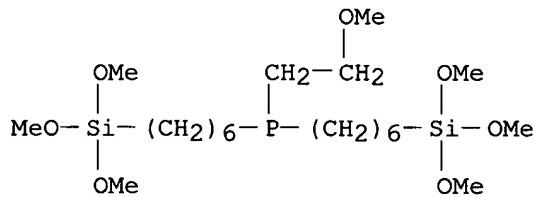
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Phosphine, [bis(trichlorosilyl)methyl]dimethyl- (9CI)
 MF C3 H7 Cl6 P Si2



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

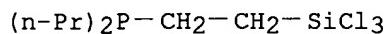
L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN 2,18-Dioxa-10-phospha-3,17-disilanonaadecane, 3,3,17,17-tetramethoxy-10-(2-methoxyethyl)- (9CI)
 MF C21 H49 O7 P Si2
 CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

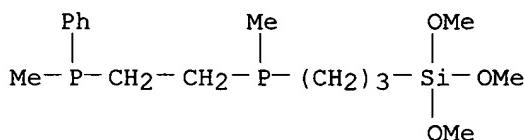
L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN

IN Phosphine, dipropyl[2-(trichlorosilyl)ethyl]- (9CI)
MF C8 H18 Cl3 P Si



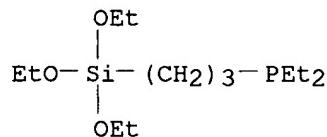
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN 2-Oxa-7,10-diphospho-3-silaundecane, 3,3-dimethoxy-7-methyl-10-phenyl-
(9CI)
MF C16 H30 O3 P2 Si



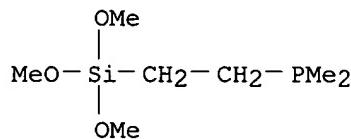
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Phosphine, diethyl[3-(triethoxysilyl)propyl]- (9CI)
MF C13 H31 O3 P Si



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Phosphine, dimethyl[2-(trimethoxysilyl)ethyl]- (9CI)
MF C7 H19 O3 P Si

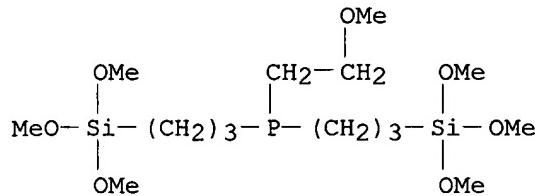


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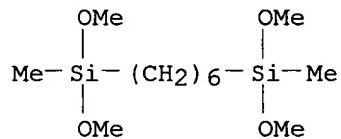
L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN 2,12-Dioxa-7-phospho-3,11-disilatridecane, 3,3,11,11-tetramethoxy-7-(2-

methoxyethyl)-, polymer with 3,10-dimethoxy-3,10-dimethyl-2,11-dioxa-3,10-disiladodecane (9CI)
 MF (C₁₅ H₃₇ O₇ P Si₂ . C₁₂ H₃₀ O₄ Si₂)_x
 CI PMS

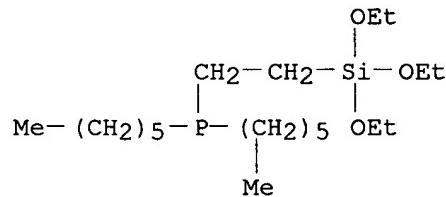
CM 1



CM 2

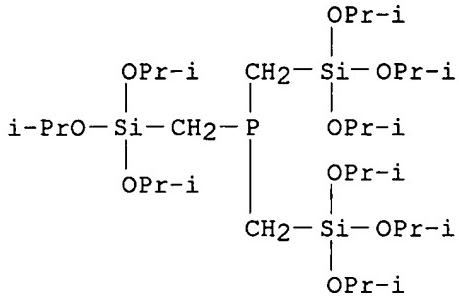


L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Phosphine, dihexyl[2-(triethoxysilyl)ethyl]- (9CI)
 MF C₂₀ H₄₅ O₃ P Si



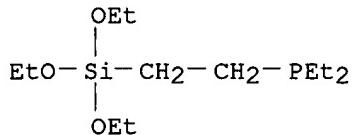
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN 3,9-Dioxa-6-phospho-4,8-disilaundecane, 2,10-dimethyl-4,4,8,8-tetrakis(1-methylethoxy)-6-[[tris(1-methylethoxy)silyl]methyl]- (9CI)
 MF C₃₀ H₆₉ O₉ P Si₃
 CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L8 22 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
 IN Phosphine, diethyl[2-(triethoxysilyl)ethyl]- (7CI, 8CI, 9CI)
 MF C12 H29 O3 P Si



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ALL ANSWERS HAVE BEEN SCANNED

| | | | |
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| FULL ESTIMATED COST | ENTRY | SESSION | |
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=> s 18
L9          28 L8

=> s 19 not py > 2002
      4296690 PY > 2002
L10          26 L9 NOT PY > 2002

=> s 19 not py > 2001
      5275216 PY > 2001
L11          25 L9 NOT PY > 2001

=> d 111 ibib abs hitstn 1-
'HITSTN' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'
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ABS ----- GI and AB
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APPS ----- AI, PRAI
BIB ----- AN, plus Bibliographic Data and PI table (default)
CAN ----- List of CA abstract numbers without answer numbers
CBIB ----- AN, plus Compressed Bibliographic Data
CLASS ----- IPC, NCL, ECLA, FTERM
DALL ----- ALL, delimited (end of each field identified)
DMAX ----- MAX, delimited for post-processing
FAM ----- AN, PI and PRAI in table, plus Patent Family data
FBIB ----- AN, BIB, plus Patent FAM
IND ----- Indexing data
IPC ----- International Patent Classifications
MAX ----- ALL, plus Patent FAM, RE
PATTS ----- PI, SO
SAM ----- CC, SX, TI, ST, IT
SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;
           SCAN must be entered on the same line as the DISPLAY,
           e.g., D SCAN or DISPLAY SCAN)
STD ----- BIB, CLASS

IABS ----- ABS, indented with text labels
IALL ----- ALL, indented with text labels
IBIB ----- BIB, indented with text labels
IMAX ----- MAX, indented with text labels
ISTD ----- STD, indented with text labels

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

HIT ----- Fields containing hit terms
HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)
            containing hit terms
HITRN ----- HIT RN and its text modification
HITSTR ----- HIT RN, its text modification, its CA index name, and
            its structure diagram
HITSEQ ----- HIT RN, its text modification, its CA index name, its
            structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
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its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its structure diagram, plus NTE and SEQ fields
KWIC ----- Hit term plus 20 words on either side
OCC ----- Number of occurrence of hit term and field in which it occurs

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All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR, FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.

ENTER DISPLAY FORMAT (BIB):end

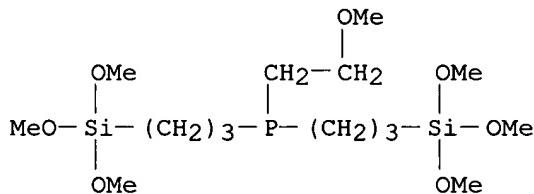
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YOU HAVE REQUESTED DATA FROM 25 ANSWERS - CONTINUE? Y/(N):y

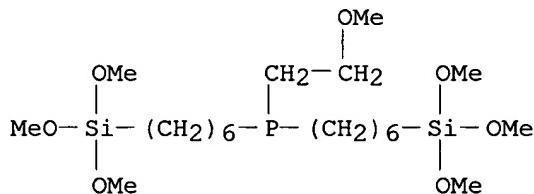
L11 ANSWER 1 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:377045 CAPLUS
DOCUMENT NUMBER: 131:185312
TITLE: Sol-Gel Processed Phosphine Ligands with Two T- or D-Silyl Functionalities and Their (η^5 -C₅Me₅)Ru(II) Complexes
AUTHOR(S): Lindner, Ekkehard; Wielandt, Wolfram; Baumann, Andreas; Mayer, Hermann A.; Reinoehl, Ulrich; Weber, Achim; Ertel, Teja S.; Bertagnolli, Helmut
CORPORATE SOURCE: Institut fuer Anorganische Chemie der Universitaet, Tuebingen, D-72076, Germany
SOURCE: Chemistry of Materials (1999), 11(7), 1833-1845
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A new class of hemilabile D- and T-functionalized ether phosphine ligands MeOCH₂CH₂P[(CH₂)zSiMem(OMe)_{3-m}]₂ [3a,b,d,e(T0)] (m = 0: z = 3 (a), 6 (b), 8 (d), 14 (e)), and 3c(D0) (m = 1; z = 6 (c)) was obtained by treatment of 2-methoxyethylphosphine (1) with the ω -alkenylsilanes H₂C:CH(CH₂)zSiMem(OMe)_{3-m} (2a-e). Treatment of [(η^5 -C₅Me₅)RuCl]₄ with the T-silyl phosphines 3a,b,d,e(T0) gave the corresponding complexes (η^5 -C₅Me₅)RuCl{MeOCH₂CH₂P[(CH₂)zSiMem(OMe)_{3-m}]₂}₂ [4a,b,d,e(T0)]. In the presence of MeCN and AgSbF₆ 4b(T0) affords the cationic T-silyl complex [(η^5 -C₅Me₅)Ru-(NCCH₃){MeOCH₂CH₂P[(CH₂)zSiMem(OMe)_{3-m}]₂}₂]⁺+SbF₆⁻ [5b(T0)]. 3A,b,d,e(T0), 3c(D0), 4a,b,d,e(T0), and 5b(T0) were sol-gel processed with variable amts. of the co-condensation agent (MeO)₂MeSi(CH₂)₆SiMe(OMe)₂ (D0-C₆-D0) to give the stationary phases (Fn = functionality \rightarrow ligands or complexes) {Fn[SiOn/2(OX)_{3-n}]₂} {MeSiO_i/2(OX)_{2-i}(CH₂)₆(XO)_{2-i}O_i/2SiMe}_y, Fn = P(CH₂CH₂OMe)[(CH₂)z]₂ [3a,b,d,e(Tn)₂(Di-C₆-Di)]_y .apprch. I1, II10-II14, IV1, V1, {Fn[SiO_i/2(OX)_{2-i}Me]₂} {MeSiO_i/2(OX)_{2-i}(CH₂)₆(XO)_{2-i}O_i/2SiMe}₄ [3c(Di)₂(Di-C₆-Di)]₄ .apprch. III4, Fn = [Cp*RuCl]_{1/2}P(CH₂CH₂OMe)[(CH₂)z]₂ [4a,b,d,e(Tn)₄(Di-C₆-Di)]_y .apprch. VII1, VII10, VII11, VIII1, IX1], and Fn = {[Cp*Ru(NCCH₃)]+SbF₆⁻}_{1/2}P(CH₂CH₂OMe)[(CH₂)₆]₂ [5b(Tn)₄(Di-C₆-Di)]₄ .apprch. X4] (see Table 1) [T = T-type Si atom (three O neighbors); D = D-type Si atom (two O neighbors); n, i = number of Si-O-Si bonds; n = 0-3, i = 0-2; y = number of co-condensed D0-C₆-D0 mols.]. Realistic amts. of T and D species and the degree of condensation were determined 29Si CP/MAS NMR spectroscopically. The polymeric phosphines I1, II10-II14, IV1, and V1 show higher degrees of condensation than the corresponding Ru(II) complexes

VII, VII0, VIII, VIII1, and IX1. Bond lengths of the Ru(II) complex in the stationary phase VII0 were elucidated by an EXAFS anal. From relaxation time studies (T1P, T1pH) and cross-polarization expts. (TPH), the polymeric phosphines II, II0-II4, IV1, and V1 reveal an increasing mobility with longer alkyl spacers between the polymer and the P-functionality and an increasing amount of the co-condensation agent D0-C6-D0. Owing to the multiple fixation of the Ru centers to the polymeric matrixes in the stationary phases VII, VII0, VIII1, VIII1, IX1, and X4, the mobility in these materials is reduced. ^1H , ^{13}C -2D-WISE NMR studies on the interphase set up by X4 and EtOH point to a remarkable decrease of the rigid character compared to the stationary phase X4 without EtOH.

IT 240398-87-2P 240398-89-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (ligand; synthesis, characterization and sol-gel polymerization of phosphine ligands with silyl functionalities and their ($\eta_5\text{-C}_5\text{Me}_5$)Ru(II) complexes)
 RN 240398-87-2 CAPLUS
 CN 2,12-Dioxa-7-phospha-3,11-disilatridecane, 3,3,11,11-tetramethoxy-7-(2-methoxyethyl)- (9CI) (CA INDEX NAME)



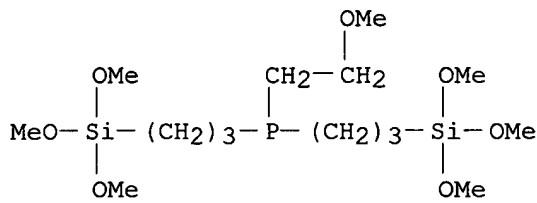
RN 240398-89-4 CAPLUS
 CN 2,18-Dioxa-10-phospha-3,17-disilanonadecane, 3,3,17,17-tetramethoxy-10-(2-methoxyethyl)- (9CI) (CA INDEX NAME)



IT 240398-93-0P 240398-95-2P 240398-97-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (polymeric ligand; synthesis, characterization and sol-gel polymerization of phosphine ligands with silyl functionalities and their ($\eta_5\text{-C}_5\text{Me}_5$)Ru(II) complexes)
 RN 240398-93-0 CAPLUS
 CN 2,12-Dioxa-7-phospha-3,11-disilatridecane, 3,3,11,11-tetramethoxy-7-(2-methoxyethyl)-, polymer with 3,10-dimethoxy-3,10-dimethyl-2,11-dioxa-3,10-disiladodecane (9CI) (CA INDEX NAME)

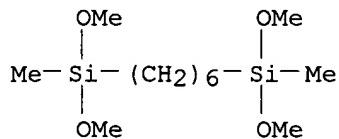
CM 1

CRN 240398-87-2
 CMF C15 H37 O7 P Si2



CM 2

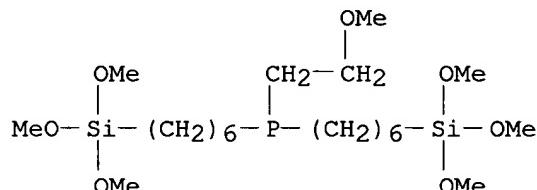
CRN 191917-78-9
 CMF C12 H30 O4 Si2



RN 240398-95-2 CAPLUS
 CN 2,18-Dioxa-10-phospha-3,17-disilanonadecane, 3,3,17,17-tetramethoxy-10-(2-methoxyethyl)-, polymer with 3,10-dimethoxy-3,10-dimethyl-2,11-dioxa-3,10-disiladodecane (9CI) (CA INDEX NAME)

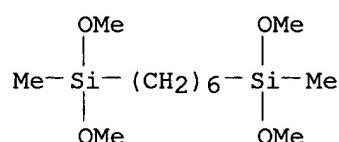
CM 1

CRN 240398-89-4
 CMF C21 H49 O7 P Si2



CM 2

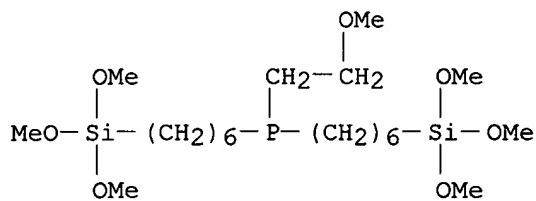
CRN 191917-78-9
 CMF C12 H30 O4 Si2



RN 240398-97-4 CAPLUS
 CN 2,18-Dioxa-10-phospha-3,17-disilanonadecane, 3,3,17,17-tetramethoxy-10-(2-methoxyethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 240398-89-4
CMF C21 H49 O7 P Si2



REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:560282 CAPLUS

DOCUMENT NUMBER: 129:232286

TITLE: Silica hybrid gel catalysts containing Group (VIII) transition metal complexes: Preparation, structural, and catalytic properties in the synthesis of N,N-dimethylformamide and methyl formate from supercritical carbon dioxide

AUTHOR(S): Krocher, Oliver; Koppel, Rene A.; Froba, Michael; Baiker, Alfons

CORPORATE SOURCE: Laboratory of Technical Chemistry, ETH Zentrum, Swiss Federal Institute of Technology, Zurich, CH-8092, Switz.

SOURCE: Journal of Catalysis (1998), 178(1), 284-298

CODEN: JCTLA5; ISSN: 0021-9517

PUBLISHER: Academic Press

DOCUMENT TYPE: Journal

LANGUAGE: English

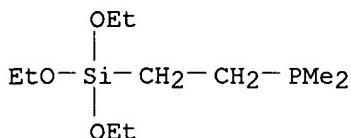
AB Sol-gel derived hybrid materials containing group(VIII) transition metal complexes in a porous silica network were prepared and tested for the catalytic synthesis of N,N-dimethylformamide (DMF) and Me formate (MF) from supercrit. carbon dioxide, hydrogen, and dimethylamine and methanol/triethylamine, resp. Bifunctional silylether phosphines X = Ph₂P(CH₂)₂Si(OEt)₃ and Y = Me₂P(CH₂)₂Si(OEt)₃ were used as ligands for the preparation of complexes of the type RuCl₂X₃, RuCl₂Y₃, MCl₃ (M = Ir, Rh), and MCl₂X₂ (M = Pt, Pd). The silylether complexes were anchored in a silica matrix by co-condensation with Si(OEt)₄. The textural and structural properties of the hybrid gels were characterized by ³¹P and ²⁹Si NMR spectroscopy, extended x-ray absorption fine structure (EXAFS), x-ray diffraction, TEM, and nitrogen and argon physisorption. ³¹P NMR spectroscopy confirmed nondestructive immobilization of the Ru, Pt, Pd, Rh, and Ir complexes. TEM and x-ray diffraction analyses proved the homogeneity and non-crystallinity of the materials. The degree of condensation of the gels and the mol. mixing of the components was studied by solid state ²⁹Si NMR spectroscopy. Textural characterization showed that all gels were micro- to mesoporous. EXAFS measurements indicated no metal-metal interactions, confirming that the organometallic complexes were immobilized as monomers. From all catalysts silica matrix stabilized ruthenium complexes exhibited the highest activity at 100% selectivity in DMF synthesis from CO₂, H₂, and dimethylamine. The corresponding turnover frequency (TOF) of 1860 h⁻¹ exceeded those reported so far for heterogeneous catalysts by a factor of 600. In Me formate synthesis, TOFs up to 115 h⁻¹ were reached. (c) 1998 Academic Press.

IT 180590-61-8, [2-(Triethoxysilyl)ethyl]dimethylphosphine
RL: RCT (Reactant); RACT (Reactant or reagent)

(hybrid gel Group (VIII) transition metal complex catalysts in manufacture
of DMF and Me formate from supercrit. carbon dioxide)

RN 180590-61-8 CAPLUS

CN Phosphine, dimethyl[2-(triethoxysilyl)ethyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 3 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:483268 CAPLUS

DOCUMENT NUMBER: 129:203342

TITLE: Preparation and characterization of new organic-inorganic hybrid materials incorporating phosphorus centers

AUTHOR(S): Bezombes, Jean-Philippe; Chuit, Claude; Corriu, Robert J. P.; Reye, Catherine

CORPORATE SOURCE: Laboratoire de Chimie Moleculaire et Organisation du Solide. UMR 5637, Universite Montpellier II, Montpellier, F-34095, Fr.

SOURCE: Journal of Materials Chemistry (1998), 8(8), 1749-1759
CODEN: JMACEP; ISSN: 0959-9428

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The reaction of p-bromo(triisopropoxyloxsilyl)benzene with magnesium led to stable THF solns. of the corresponding Grignard reagent. The reaction of the Grignard reagent with PCl₃ or PhPCl₂ gave phosphines I and II, resp. LiAlH₄ reduction of I afforded phosphine III. Compds. I and III were transformed into phosphorus derivs. including BH₃, W(CO)₅, platinum and palladium complexes, all of them bearing three hydrolyzable groups. Hydrolysis and condensation of these phosphorus derivs. in the presence of an acid catalyst resulted in the formation of new hybrid organic-inorg. xerogels incorporating phosphorus centers. Solid state ¹³C, ²⁹Si, and ³¹P NMR spectroscopies were used to evaluate the integrity of the organic moiety and to determine the degrees of hydrolysis and condensation in the network materials. It was shown that during the sol-gel process there is no alteration around the phosphorus center. The xerogels are amorphous microporous materials with sp. surface areas lying between less than 10 m²g⁻¹ and 800 m²g⁻¹ depending on the exptl. conditions. In contrast with these results, complete cleavage of the SiC bonds was observed during the hydrolysis and polycondensation of tris(triisopropoxyloxsilylmethyl)phosphine and tris(trihydrosilylmethyl)phosphine.

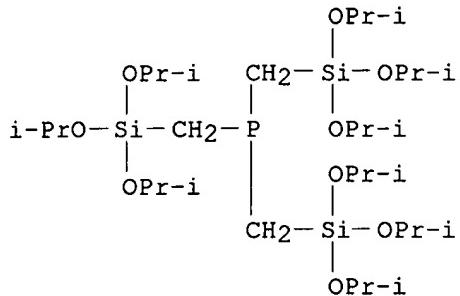
IT 212116-24-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(monomer; preparation of phosphorus-containing silsesquioxane xerogels by sol-gel process)

RN 212116-24-0 CAPLUS

CN 3,9-Dioxa-6-phospha-4,8-disilaundecane, 2,10-dimethyl-4,4,8,8-tetrakis(1-methylethoxy)-6-[[tris(1-methylethoxy)silyl]methyl]- (9CI) (CA INDEX NAME)



IT 212116-45-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of phosphorus-containing silsesquioxane xerogels by sol-gel process)

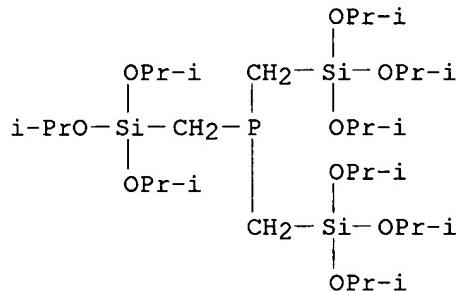
RN 212116-45-5 CAPLUS

CN 3,9-Dioxa-6-phospho-4,8-disilaundecane, 2,10-dimethyl-4,4,8,8-tetrakis(1-methylethoxy)-6-[[tris(1-methylethoxy)silyl]methyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 212116-24-0

CMF C30 H69 O9 P Si3



REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 4 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:127105 CAPLUS

DOCUMENT NUMBER: 128:175271

TITLE: Formation of Crystalline Nanoclusters of Fe2P, RuP, Co2P, Rh2P, Ni2P, Pd5P2, or PtP2 in a Silica Xerogel Matrix from Single-Source Molecular Precursors

AUTHOR(S): Lukehart, C. M.; Milne, Stephen B.; Stock, S. R.

CORPORATE SOURCE: Department of Chemistry, Vanderbilt University, Nashville, TN, 37235, USA

SOURCE: Chemistry of Materials (1998), 10(3), 903-908
 CODEN: CMATEX; ISSN: 0897-4756

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

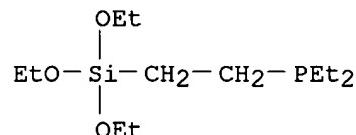
AB Metal complexes containing bifunctional phosphine ligands that possess alkoxy-silyl functional groups were prepared for seven metals of the 1st, 2nd, or 3rd transition metal series. Incorporation of these single-source precursors into silica xerogel matrixes using sol-gel chemical affords molecularly doped xerogels. Subsequent thermal treatment of these doped xerogels under solely reducing conditions selectively affords nanoclusters

of Fe2P, RuP, Co2P, Rh2P, Ni2P, Pd5P2, or PtP2 which are highly dispersed throughout the bulk of the xerogel matrix. Characterization of these nanocomposite materials by TEM, energy-dispersive spectrometry, x-ray diffraction, and electron diffraction indicates that the metal phosphide nanoclusters are highly crystalline with some exhibiting nonspherical morphol.

IT 18082-97-8, Diethyl[2-(triethoxysilyl)ethyl]phosphine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (for preparation of transition metal phosphide crystalline nanoclusters in silica
 xerogel matrix)

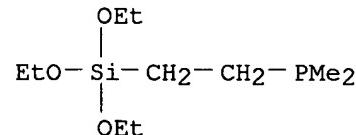
RN 18082-97-8 CAPLUS

CN Phosphine, diethyl[2-(triethoxysilyl)ethyl]- (7CI, 8CI, 9CI) (CA INDEX NAME)

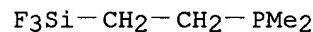


REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

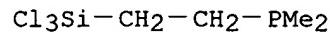
L11 ANSWER 5 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1996:441531 CAPLUS
 DOCUMENT NUMBER: 125:178543
 TITLE: Sol-gel derived hybrid materials as heterogeneous catalysts for the synthesis of N,N-dimethylformamide from supercritical carbon dioxide
 AUTHOR(S): Kroecher, Oliver; Koeppel, Rene A.; Baiker, Alfons
 CORPORATE SOURCE: Department Chemical Engineering Industrial Chemistry, Swiss Federal Institute Technology, Zurich, CH-8092, Switz.
 SOURCE: Chemical Communications (Cambridge) (1996), (13), 1497-1498
 CODEN: CHCOFS; ISSN: 1359-7345
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Hybrid materials derived from Group VIII metal-chloro complexes of the type MCl₂X₂ (M = Pt, Pd), MCl₃X (M = Rh, Ir) and especially RuCl₂X₃ [X = Ph₂P(CH₂)₂Si(OEt)₃, Me₂P(CH₂)₂Si(OEt)₃] by cocondensation with Si(OEt)₄ via a sol-gel process are highly active heterogeneous catalysts for the synthesis of N,N-dimethylformamide (DMF) from CO₂, H₂ and dimethylamine under supercrit. conditions, affording turnover nos. up to 110,800 at 100% selectivity.
 IT 180590-61-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (sol-gel derived hybrid materials as heterogeneous catalysts for synthesis of N,N-dimethylformamide from supercrit. carbon dioxide)
 RN 180590-61-8 CAPLUS
 CN Phosphine, dimethyl[2-(triethoxysilyl)ethyl]- (9CI) (CA INDEX NAME)



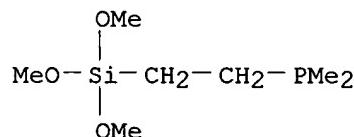
L11 ANSWER 6 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1991:680118 CAPLUS
 DOCUMENT NUMBER: 115:280118
 TITLE: Alternative ligands. XXI. Novel donor/acceptor ligands
 Me₂PCH₂CH₂SiFnMe_{3-n}, Me₂PCH₂CH₂SiR(C₆H₄F)₂, and
 (2-Me₂PC₆H₄)SiXMe₂
 AUTHOR(S): Grobe, J.; Hildebrandt, W.; Martin, R.; Walter, A.
 CORPORATE SOURCE: Anorg.-Chem. Inst., Westfael. Wilhelms-Univ.,
 Muenster, D-4400, Germany
 SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie
 (1991), 592, 121-40
 CODEN: ZAACAB; ISSN: 0044-2313
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 115:280118
 AB Donor/acceptor ligands of the type Me₂PCH₂CH₂SiX₃ [X = Cl, F (I), Me, OMe], (Me₂PCH₂CH₂)₂SiX₂ (X = Cl, F), Me₂PCH₂CH₂SiX(C₆H₄F)₂ (X = F, Me), and Me₂PCH₂CH₂SiX_nMe_{3-n}[n = 1; X = Cl, F; n = 2; X = F (II)] are prepared in yields between 42 and 95% by photochem. addition of Me₂PH to the corresponding vinylsilane precursors. In case of the halogen containing representatives formation of solid polyadducts, due to Lewis acid/base interaction between P-donor and Si-acceptor function, reduces the yields. Ligands of the type (2-Me₂PC₆H₄)SiXMe₂ (X = NMe₂, Cl, F) are obtained by two different routes using 2-chlorobromobenzene as the starting material. Study of the influence of dissoln. on the proton and fluorine resonances of I and II elucidated the associative properties. Investigation of the adduct equilibrium and cleavage of the polyadduct of I using NH₄F and Me₄NF for the formation of [Me₂PCH₂CH₂SiF₅]₂⁻ was investigated. Oligo- and polymerization are due to P \rightarrow Si interaction.
 IT 33845-46-4P 33845-47-5P 101409-18-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and multinuclear NMR of)
 RN 33845-46-4 CAPLUS
 CN Phosphine, dimethyl[2-(trifluorosilyl)ethyl]- (8CI, 9CI) (CA INDEX NAME)



RN 33845-47-5 CAPLUS
 CN Phosphine, dimethyl[2-(trichlorosilyl)ethyl]- (8CI, 9CI) (CA INDEX NAME)



RN 101409-18-1 CAPLUS
 CN Phosphine, dimethyl[2-(trimethoxysilyl)ethyl]- (9CI) (CA INDEX NAME)



L11 ANSWER 7 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1987:407268 CAPLUS
 DOCUMENT NUMBER: 107:7268

TITLE: Silica-supported bis(trialkylphosphine)platinum oxalates. Photogenerated catalysts for hydrosilylation of olefins

AUTHOR(S): Prignano, Andrea L.; Trogler, William C.

CORPORATE SOURCE: Dep. Chem., Univ. California, San Diego, La Jolla, CA, 92093, USA

SOURCE: Journal of the American Chemical Society (1987), 109(12), 3586-95

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 107:7268

AB A heterogeneous hydrosilylation catalyst was prepared by linking a photoactive Pt(C₂O₄)L₂ complex to silica (300 m²/g) by using the functionalized ligand L = (MeO)₃Si(CH₂)₂PtEt₂. Unreacted surface hydroxyls were capped with inert SiMe₃ groups in all expts. The surface-attached oxalate complex was characterized by ¹³C, ³¹P, and ²⁹Si cross-polarization magic angle spinning solid-state NMR spectroscopies. The complex binds to the surface with an intact coordination sphere. At maximum loading (5.4 + 10⁻⁴ mol of Pt/g) the NMR data suggest about 75% of the complexes bind to the surface with both L. UV irradiation results in the loss of the oxalate ligand as CO₂ and the formation of a surface-attached PtL₂ species that can be trapped with CO to yield a supported PtL₂(CO)₂ species. A bridging carbonyl species is observed in the FTIR spectrum on extended irradiation. Scanning and transmission electron microscopy failed to show clustering or polymerization of the complex on the surface down to 20-Å resolution. UV irradiation of the supported complex in 1-heptene or MeSiHCl₂ generated a catalyst for hydrosilylation on addition of MeSiHCl₂ or 1-heptene, resp. The lack of catalytic activity in the filtrate and the retention of catalytic activity in the silica after filtration and washing of the activated catalyst suggest the catalyst is heterogeneous. Apparently the small trialkylphosphine ligand tightly binds the platinum on the surface. The kinetic behavior of the supported catalyst differs from soluble hydrosilylation catalysts in its sensitivity toward oxygen, lack of an induction period, and inhibition observed with coordinating solvents or excess olefin. Addition of Hg, a poison for metallic Pt, to catalysis solns. did not alter the catalytic rate. Thermal activation of the supported oxalate complex (200°) produces Pt particles (.apprx.20-Å diameter by TEM) on the surface. This sample catalyzes hydrosilylation of olefins after a long induction period, and addition of Hg to the catalysis solution quenches all catalytic activity. The catalytically active site for the photoactive catalyst is postulated to be monomeric with a turnover rate at 30° of about 80-340 h⁻¹/site.

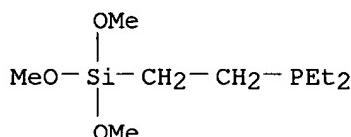
IT 106636-91-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and ligand substitution reactions of, with platinum complexes)

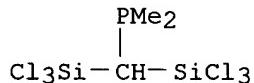
RN 106636-91-3 CAPLUS

CN Phosphine, diethyl[2-(trimethoxysilyl)ethyl]- (9CI) (CA INDEX NAME)

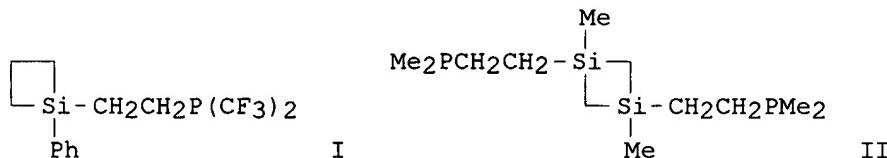


130° (15 h), by cleavage of all Si-P bonds to (Cl₃Si)₂C:PMe₂PMe₂:C(SiCl₃)₂ (II), (Cl₃Si)₂CHPMe₂, III, and IV. The course of this reaction incorporates a number of stages of which the compds. (Cl₃Si)₂C:PMe₂P(Me)SiMe₃, (Cl₃Si)₂C:PMe₂PMe₂(Me)SiMe₃ and ClP(Me)SiMe₃ are important and are yet to be isolated. The reaction of (Cl₃Si)₂C:PMe₂Cl with LiP(SiMe₂)₂ produces II as well as P₂(SiMe₃)₄ and P(SiMe₃)₃. The formation of II can be explained by the initial formation of the intermediate (Cl₃Si)₂C:PMe₂P(SiMe₂)₂ which reacts with I to produce II and ClP(SiMe₃)₂. The formation of P₂(SiMe₃)₄ is also explained by the reaction of ClP(SiMe₃)₂ with LiP(SiMe₃)₄. The reaction of I with Me₃SiPMe₂ yielding (Cl₃Si)₂C(H)PMe₂ at 130° 15-20 h is related to the formation of (Me₃Si)₂C(H)PMe₂ from corresponding Si-methylated phosphorylides with the exception that, at 0°, this reaction goes to completion within a few minutes.

IT 96284-15-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and spectra of)
 RN 96284-15-0 CAPLUS
 CN Phosphine, [bis(trichlorosilyl)methyl]dimethyl- (9CI) (CA INDEX NAME)



L11 ANSWER 11 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1983:34626 CAPLUS
 DOCUMENT NUMBER: 98:34626
 TITLE: Silaethenes. X. Phosphinoethylsilacyclobutanes
 AUTHOR(S): Auner, N.; Grobe, J.
 CORPORATE SOURCE: Eduard-Zintl-Inst. Anorg. Chem., Tech. Hochsch.
 Darmstadt, Darmstadt, Fed. Rep. Ger.
 SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie
 (1982), 489, 23-41
 CODEN: ZAACAB; ISSN: 0044-2313
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 98:34626
 GI



AB Photoaddn. of phosphines to vinylsilanes gave .apprx.30 phosphinoethylsilanes, e.g., Me₂Si(CH₂PMe₂)₂, I, and II. The addition proceeded anti-Markownikoff; the small portion of the Markownikoff product was larger for (F₃C)₂PH than for Me₂PH.
 IT 33845-46-4P 33845-47-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 33845-46-4 CAPLUS
 CN Phosphine, dimethyl[2-(trifluorosilyl)ethyl]- (8CI, 9CI) (CA INDEX NAME)

F₃Si—CH₂—CH₂—PMe₂

RN 33845-47-5 CAPLUS
CN Phosphine, dimethyl[2-(trichlorosilyl)ethyl]- (8CI, 9CI) (CA INDEX NAME)

Cl₃Si—CH₂—CH₂—PMe₂

L11 ANSWER 12 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1981:550878 CAPLUS
DOCUMENT NUMBER: 95:150878
TITLE: ω -Alkenyl silanes and $\alpha\omega$ -silyl alkanes
INVENTOR(S): Oswald, Alexis A.; Murrell, Lawrence L.
PATENT ASSIGNEE(S): Exxon Research and Engineering Co., USA
SOURCE: U.S., 18 pp. Cont.-in-part of U.S. 4,083,803.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 4268682 | A | 19810519 | US 1977-859826 | 19771212 |
| US 3907852 | A | 19750923 | US 1972-265507 | 19720623 |
| US 4083803 | A | 19780411 | US 1975-610628 | 19750905 |
| PRIORITY APPLN. INFO.: | | | US 1972-265507 | A2 19720623 |
| | | | US 1975-610628 | A2 19750905 |

AB R₃Si(CH₂)_{n+2}CH:CH₂ [R₃Si = Cl₃Si, Cl₂SiMe, (EtO)₃Si, n = 2, 4, 6, 10], prepared by addition of R₃SiH to an alkadiene, were treated with R₂1PH to give R₂1P(CH₂)_{m+2}SiR₃ (R₁ = Ph, cyclohexyl, Pr, m = 0, 1, 6, 12) which were complexed with Rh(CO)2Cl₂ to give e.g., [R₂1P(CH₂)_{m+2}SiCl₃]₂Rh(CO)Cl which were useful as catalyst for hydroformylation, hydrogenation, or carbonylation. Thus, addition of Cl₃SiH to CH₂:CH(CH₂)₄CH:CH₂ gave Cl₃Si(CH₂)₆CH:CH₂, which was treated with Ph₂PH to give 70% Ph₂P(CH₂)₈SiCl₃. The latter was treated with Rh(CO)2Cl₂ to give [Ph₂P(CH₂)₈SiCl₃]₂Rh(CO)Cl whose catalytic properties were determined by hydroformylation of propylene and by hydrogenation of cyclohexene.

IT 52217-67-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with dicarbonyldichlororhodium)
RN 52217-67-1 CAPLUS
CN Phosphine, dipropyl[2-(trichlorosilyl)ethyl]- (9CI) (CA INDEX NAME)

(n-Pr)₂P—CH₂—CH₂—SiCl₃

L11 ANSWER 13 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1981:443236 CAPLUS
DOCUMENT NUMBER: 95:43236
TITLE: Formation of organosilicon compounds. 83. Formation, reactions, and structure of ylides from perchlorinated carbosilanes
AUTHOR(S): Fritz, G.; Braun, U.; Schick, W.; Hoenle, W.; Von

CORPORATE SOURCE:

Schnering, H. G.

Inst. Anorg. Chem., Univ. Karlsruhe, Karlsruhe, Fed.
Rep. Ger.

SOURCE:

Zeitschrift fuer Anorganische und Allgemeine Chemie
(1981), 472, 45-68

CODEN: ZAACAB; ISSN: 0044-2313

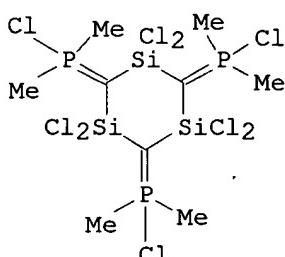
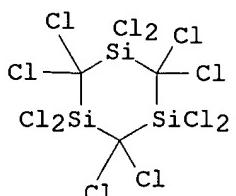
DOCUMENT TYPE:

Journal

LANGUAGE:

German

GI



AB The CCl-moiety in perchlorinated carbosilanes such as $(\text{Cl}_3\text{Si})_2\text{CCl}_2$ (I), $\text{Cl}_3\text{SiCH}_2\text{SiCl}_2\text{CCl}_2\text{SiCl}_3$ (II), $(\text{Cl}_3\text{SiCCl}_2)_2\text{SiCl}_2$ (III), or IV, cleaves the Si-P bond of $\text{Me}_3\text{SiPMe}_2$ (V); and by subsequent rearrangement ylides are formed. Treatment of V with I yields $(\text{Cl}_3\text{Si})_2\text{C:PMe}_2\text{Cl}$ (VI), which also results from the reaction of Me_2PPMe_2 with I. The ylides also can be obtained by means of treating I-IV with LiPMe_2 . Thus, III with 1 mol of LiPMe_2 yields $\text{Cl}_3\text{SiCCl}_2\text{SiCl}_2\text{C}(\text{PMe}_2\text{Cl})\text{SiCl}_3$ or $\text{Cl}_3\text{SiC}(\text{PMe}_2\text{Cl})\text{SiCl}_2\text{C}(\text{PMe}_2\text{Cl})\text{SiCl}_3$, resp., with 2 mol of LiPMe_2 . The corresponding Si-methylated derivs. do not form ylides; e.g., $(\text{Me}_3\text{Si})_2\text{CCl}_2$ with VI in benzene yields $\text{Me}_3\text{SiCH}(\text{PMe}_2)\text{SiMe}_3$. MeLi methylates VI to yield $(\text{Cl}_3\text{Si})_2\text{C:PMe}_3$ (VII). With either LiPMe_2 , $\text{Me}_3\text{SiPMe}_2$, or Me_2PPMe_2 , VI forms $(\text{Cl}_3\text{Si})_2\text{C:PMe}_2\text{PMe}_2$. Treating VI with $\text{MeO-Et}_2\text{NH}$, $(\text{Cl}_3\text{Si})[\text{SiCl}_2(\text{OMe})]\text{C:PMe}_2(\text{OMe})$ is formed. Ylides also result from the reactions of partially C-chlorinated 1,1,3,3,5,5-hexachloro-1,3,5-trisilacyclohexanes with $\text{Me}_3\text{SiPMe}_2$; IV with 3 mol of $\text{Me}_3\text{SiPMe}_2$ or LiPMe_2 , resp., yields VIII, which crystallizes with 1 mol of monoglyme. X-ray structure detns. revealed that VI-VIII are planar.

IT 78313-08-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 78313-08-3 CAPLUS

CN Phosphine, dimethyl[(trichlorosilyl)methyl]- (9CI) (CA INDEX NAME)

$\text{Cl}_3\text{Si}-\text{CH}_2-\text{PMe}_2$

L11 ANSWER 14 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1979:142652 CAPLUS

DOCUMENT NUMBER: 90:142652

TITLE: Silylhydrocarbyl phosphine transition metal complexes

INVENTOR(S): Oswald, Alexis A.; Murrell, Lawrence L.

PATENT ASSIGNEE(S): Exxon Research and Engineering Co., USA

SOURCE: U.S., 18 pp. Cont.-in-part of U.S. 4,083,803.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 4134906 | A | 19790116 | US 1977-829898 | 19770901 |
| US 3907852 | A | 19750923 | US 1972-265507 | 19720623 |
| US 4083803 | A | 19780411 | US 1975-610628 | 19750905 |
| PRIORITY APPLN. INFO.: | | | US 1972-265507 | A2 19720623 |
| | | | US 1975-610628 | A2 19750905 |

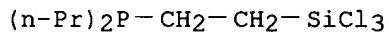
AB Heterogeneous silylhydrocarbyl phosphine transition metal complex catalysts and intermediates therefore were prepared by the selective monoaddn. of silane having Cl, alkoxy, or acyloxy groups to an α,ω -diene, followed by the addition of a phosphine to the resulting ω -alkenyl silanes to form the corresponding silylalkyl phosphines, which were then covalently anchored as such or in the form of their transition metal complexes via condensation of their reactive silane substituents with hydroxy groups of silica and metal oxides, optionally followed by complexing the free phosphine groups of anchored silylalkyl phosphines with transition metal compds. The synthesis of numerous silanes, silane-phosphine compds., and transition metal complexes is given. Most of the catalysts are Rh-containing complexes, but other metal complexes containing Pd and Co were prepared

IT 52217-67-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 52217-67-1 CAPLUS

CN Phosphine, dipropyl[2-(trichlorosilyl)ethyl]- (9CI) (CA INDEX NAME)



L11 ANSWER 15 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1978:442543 CAPLUS

DOCUMENT NUMBER: 89:42543

TITLE: Synthesis and catalytic properties of complexes of transition metals with ligands fixed on oxide support surfaces. II. Fixed carbonylphosphine complexes of cobalt as catalysts for the selective hydrogenation of polyolefins

AUTHOR(S): Kuznetsov, V. L.; Kuznetsov, B. N.; Ermakov, Yu. I.

CORPORATE SOURCE: Inst. Katal., Novosibirsk, USSR

SOURCE: Kinetika i Kataliz (1978), 19(2), 346-53

CODEN: KNKTA4; ISSN: 0453-8811

DOCUMENT TYPE: Journal

LANGUAGE: Russian

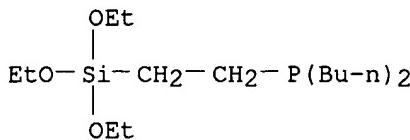
AB The title catalysts were prepared by treatment of silica gel with $(\text{EtO})_3\text{SiCH}_2\text{CH}_2\text{PR}_2$ ($\text{R} = \text{Ph}, \text{Bu}, \text{C}_6\text{H}_11$), followed by reaction with $\text{Co}_2(\text{CO})_8$. Catalysts having 1.3-2.6% Co and P/Co ratios of 0.9-1.17 were obtained; IR anal. indicated certain structural differences. The catalytic properties of these complexes in the hydrogenation of cis,trans,trans-1,5,9-cyclododecatriene resembled those of homogeneous Co complexes, especially in the selectivity for monoene formation ($\leq 96\%$).

IT 66838-73-1D, reaction product with silica and cobalt octacarbonyl
RL: CAT (Catalyst use); USES (Uses)

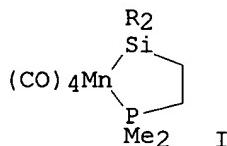
(catalysts, for hydrogenation of cyclododecatriene)

RN 66838-73-1 CAPLUS

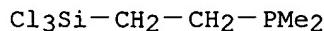
CN Phosphine, dibutyl[2-(triethoxysilyl)ethyl]- (9CI) (CA INDEX NAME)



L11 ANSWER 16 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1978:50995 CAPLUS
 DOCUMENT NUMBER: 88:50995
 TITLE: Alternative ligands. VII: Chelate complexes of the type $(\text{CO})_4\text{MnPM}e_2\text{CH}_2\text{CH}_2\text{SiX}_2$ ($\text{Me} = \text{CH}_3$; $\text{X} = \text{CH}_3, \text{Cl}$) having Mn-Si bonding
 AUTHOR(S): Grobe, J.; Walter, A.
 CORPORATE SOURCE: Eduard Zintl-Inst., Tech. Hochsch. Darmstadt, Darmstadt, Fed. Rep. Ger.
 SOURCE: Journal of Organometallic Chemistry (1977), 140(3), 325-48
 DOCUMENT TYPE: CODEN: JORCAI; ISSN: 0022-328X
 LANGUAGE: Journal German
 GI



AB Chelate complexes I ($\text{R} = \text{Me}, \text{Cl}$) were prepared from $\text{Na}[\text{Mn}(\text{CO})_5]$ and $\text{HMn}(\text{CO})_5$, resp., by two-step reactions with the ligands $\text{Me}_2\text{PCH}_2\text{CH}_2\text{SiR}_2\text{R}_1$ ($\text{R}_1 = \text{e.g. Cl}$) using alkali salt, amine or HCl elimination. I ($\text{R} = \text{Cl}$) is also obtained by cleavage of $\text{Mn}_2(\text{CO})_{10}$ with $\text{Me}_2\text{PCH}_2\text{CH}_2\text{SiCl}_3$. In the case of $\text{HMn}(\text{CO})_5$ the intermediates $(\text{CO})_4\text{Mn}(\text{H})\text{L}$ [$\text{L} = \text{Me}_2\text{PSiMe}_3, \text{Me}_2\text{PCH}_2\text{CH}_2\text{SiMe}_2(\text{NMe}_2), \text{Me}_2\text{PCH}_2\text{CH}_2\text{SiCl}_2(\text{NMe}_2)$] can be isolated.
 IT 33845-47-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction with manganese complex)
 RN 33845-47-5 CAPLUS
 CN Phosphine, dimethyl[2-(trichlorosilyl)ethyl]- (8CI, 9CI) (CA INDEX NAME)



L11 ANSWER 17 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1977:422179 CAPLUS
 DOCUMENT NUMBER: 87:22179
 TITLE: Alternative ligands. 6. A new type of $3z-2e$ bonding system
 AUTHOR(S): Grobe, Joseph; Martin, Roland; Moeller, Uwe
 CORPORATE SOURCE: Eduard-Zintl-Inst., Tech. Hochsch. Darmstadt,

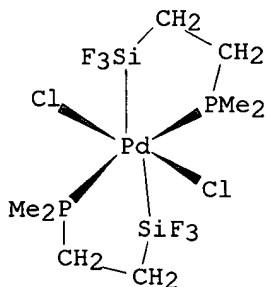
SOURCE:

Darmstadt, Fed. Rep. Ger.
Angewandte Chemie (1977), 89(4), 257-8
CODEN: ANCEAD; ISSN: 0044-8249

DOCUMENT TYPE:

Journal
German

GI



AB The planarity of the $PdCl_2P_2$ moiety in I occurs via participation of $4dx^2-y^2$, $5s$, $5px$, $5py$ orbitals of Pd. The Pd-Si bonds are described in terms of a coordinate $3z-2e$ bond.

IT 33845-46-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with palladium benzonitrile complex)

RN 33845-46-4 CAPLUS

CN Phosphine, dimethyl[2-(trifluorosilyl)ethyl]- (8CI, 9CI) (CA INDEX NAME)

$F_3Si-CH_2-CH_2-PM_2$

L11 ANSWER 18 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1976:559271 CAPLUS

DOCUMENT NUMBER: 85:159271

TITLE: Supported transition metal complexes. V. Liquid phase catalytic hydrogenation of 1-hexene, cyclohexene and isoprene under continuous flow conditions

AUTHOR(S): Allum, K. G.; Hancock, R. D.; Howell, I. V.; Lester, T. E.; McKenzie, S.; Pitkethly, R. C.; Robinson, P. J.

CORPORATE SOURCE: BP Res. Cent., Br. Pet. Co. Ltd., Sunbury-on-Thames/Middlesex, UK

SOURCE: Journal of Catalysis (1976), 43(1-3), 331-8
CODEN: JCTLA5; ISSN: 0021-9517

DOCUMENT TYPE: Journal

LANGUAGE: English

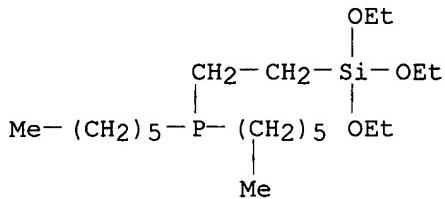
AB Three complexes of Rh and one of Ir of the type MX (phosphine) $_n$ (X = halide; $n = 2, 3$), chemical bonded to silica, catalyze the hydrogenation of 1-hexene, cyclohexene, and isoprene in the liquid phase under a variety of continuous flow conditions (15-50 atm H₂, 20-160°). Bush in the feedstock reduces the activity, but increases the thermal stability of the catalysts.

IT 55120-19-9

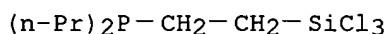
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with rhodium and iridium complexes)

RN 55120-19-9 CAPLUS

CN Phosphine, dihexyl[2-(triethoxysilyl)ethyl]- (9CI) (CA INDEX NAME)



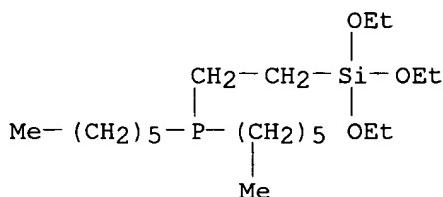
L11 ANSWER 19 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1976:105685 CAPLUS
 DOCUMENT NUMBER: 84:105685
 TITLE: Stepwise addition of silanes and phosphines to α,ω -dienes. Approach to novel phosphine ligand anchoring reagents for silica
 AUTHOR(S): Oswald, Alexis A.; Murrel, Lawrence L.; Boucher, Lawrence J.
 CORPORATE SOURCE: Corp. Res. Lab., Esso Res. and Eng. Co., Linden, NJ, USA
 SOURCE: Preprints - American Chemical Society, Division of Petroleum Chemistry (1974), 19(1), 155-61
 CODEN: ACPCAT; ISSN: 0569-3799
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Silylalkylphosphine anchoring reagents for silica were prepared via sequential silane and phosphine addition to α,ω -dienes. Thus, hydrosilylation of $\text{H}_2\text{C:CH(CH}_2\text{nCH:CH}_2$ with R_3SiH gave 80-90% $\text{H}_2\text{C:CH(CH}_2\text{nCH}_2\text{CH}_2\text{SiR}_3$ (I) and $\text{R}_3\text{SiCH}_2\text{CH}_2(\text{CH}_2\text{nCH}_2\text{CH}_2\text{SiR}_3$ (SiR_3 , n given): SiMeCl_2 , 6; SiCl_3 , 4; Si(OEt)_3 , 4; SiCl_3 , 8. An excess of the diene reactant increased the selectivity to the monoadduct. Addition of R_1PH to I gave 46-95% $\text{R}_1\text{P}(\text{CH}_2)_m\text{SiR}_3$ ($\text{R}_1 = \text{Ph}$, $\text{R} = \text{Cl}$, OEt , OAc ; $\text{R}_1 = \text{Pr}$, $\text{R} = \text{Cl}$).
 IT 52217-67-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 52217-67-1 CAPLUS
 CN Phosphine, dipropyl[2-(trichlorosilyl)ethyl]- (9CI) (CA INDEX NAME)



L11 ANSWER 20 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1975:413208 CAPLUS
 DOCUMENT NUMBER: 83:13208
 TITLE: Hydrogenating unsaturated compounds
 INVENTOR(S): Pitkethly, Robert C.; McKenzie, Samuel; Allum, Keith G.
 PATENT ASSIGNEE(S): British Petroleum Co. Ltd.
 SOURCE: Brit., 17 pp.
 CODEN: BRXXAA
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|-------|----------|-----------------|----------|
| ----- | ----- | ----- | ----- | ----- |
| GB 1372189 | A | 19741030 | GB 1970-47846 | 19711001 |

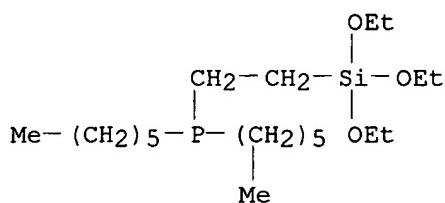
PRIORITY APPLN. INFO.: GB 1970-47846 A 19711001
 AB Hydrogenation catalysts for the conversion of alkenes to alkanes and dienes to alkenes, and for the treatment of steam cracked gasoline comprised transition metals bonded to P atoms of P-containing groups chemical linked to the surface of a particulate inorg. support, e.g. silica [7631-86-9] or alumina [1344-28-1], by chemical reactions of HO groups on the support surface. The catalysts are active in the absence and presence of mercaptan and thiophene S. They can be reused and are stabilized by contact with mercaptans, thiophene [110-02-1], thiophenol [108-98-5], and carbon disulfide [75-15-0]. Thus, (EtO)3Si(CH₂)₂PPh₂ [18586-39-5] was added to cycloocta-1,5-diene rhodium chloride [[RhCl(C₈H₁₂)₂]₂] [12092-47-6], to give RhCl[(EtO)3Si(CH₂)₂PPh₂]₃ [55465-37-7]. The complex was treated in C₆H₆ with silica to give a silica-bonded Rh catalyst containing 0.9 weight % Rh. Stirring 0.5 g catalyst in H-saturated heptane containing 25 ml 1-hexene [592-41-6] at 60° and 1 atm H gave a 50 weight % conversion with a 45 weight % selectivity to hexane [110-54-3].
 IT 55120-19-9D, Phosphine, dihexyl[2-(triethoxysilyl)ethyl]-, reaction products with dicobalt octacarbonyl
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, for hydrogenation of alkenes)
 RN 55120-19-9 CAPLUS
 CN Phosphine, dihexyl[2-(triethoxysilyl)ethyl]- (9CI) (CA INDEX NAME)



L11 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1975:160726 CAPLUS
 DOCUMENT NUMBER: 82:160726
 TITLE: Supported transition metal complexes. II. Silica as the support
 AUTHOR(S): Allum, K. G.; Hancock, R. D.; Howell, I. V.; McKenzie, S.; Pitkethly, R. C.; Robinson, P. J.
 CORPORATE SOURCE: BP Res. Cent., British Pet. Co., Ltd., Sunbury-on-Thames/Middx., UK
 SOURCE: Journal of Organometallic Chemistry (1975), 87(2), 203-16
 CODEN: JORCAI; ISSN: 0022-328X
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Liganding groups may be chemically bonded to SiO₂ by reaction of the surface silanols with mols. of the type RSiX₃, in which R is an organic group containing a ligand atom and X is a hydrolysable group (e.g., OEt). Ligand-silicas, so formed, may be used to prepare transition metal complexes. Alternatively, complexes with a ligand containing a SiX₃ group may be prepared and subsequently bonded to the SiO₂ surface. The principles are illustrated by the preparation of some P, N, S, and O donor ligands and ligand-silicas. Carbonyl containing Rh complexes of these ligands are described.
 IT 55120-19-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with silica in preparation of rhodium carbonyl catalysts)

RN 55120-19-9 CAPLUS
 CN Phosphine, dihexyl[2-(triethoxysilyl)ethyl]- (9CI) (CA INDEX NAME)



L11 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1974:83252 CAPLUS
 DOCUMENT NUMBER: 80:83252
 TITLE: Silylhydrocarbylphosphines and related compounds
 INVENTOR(S): Oswald, Alexis A.; Murrell, Lawrence L.
 PATENT ASSIGNEE(S): esoo
 SOURCE: Ger. Offen., 80 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 4
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------------|-----------------|----------|
| DE 2332167 | A1 | 19740110 | DE 1973-2332167 | 19730625 |
| DE 2332167 | B2 | 19810619 | | |
| DE 2332167 | C3 | 19820429 | | |
| US 3907852 | A | 19750923 | US 1972-265507 | 19720623 |
| CA 1008460 | A1 | 19770412 | CA 1973-174243 | 19730618 |
| NL 7308749 | A | 19731227 | NL 1973-8749 | 19730622 |
| FR 2189119 | A1 | 19740125 | FR 1973-22952 | 19730622 |
| FR 2189119 | B1 | 19830204 | | |
| IT 990682 | A | 19750710 | IT 1973-25762 | 19730622 |
| GB 1440801 | A | 19760630 | GB 1973-29696 | 19730622 |
| JP 49055628 | A2 | 19740530 | JP 1973-71239 | 19730623 |
| JP 57015600 | B4 | 19820331 | | |
| DE 2366357 | C2 | 19821216 | DE 1973-2366357 | 19730623 |
| DE 2366359 | C2 | 19840913 | DE 1973-2366359 | 19730623 |
| DE 2366397 | C2 | 19870205 | DE 1973-2366397 | 19730623 |
| PRIORITY APPLN. INFO.: | | US 1972-265507 | A | 19720623 |

AB (Silylalkyl)phosphine complex catalysts for hydroformylation, carbonylation, Oxo, and hydrogenation reactions were prepared. Thus, 1,7-octadiene was treated with HSiCl₃ and the resulting CH₂:CH(CH₂)₆SiCl₃ treated with Ph₂PH to give Ph₂P(CH₂)₈SiCl₃. The phosphine was anchored on silica and treated with Rh(cO)₂C₁₂ to give [Ph₂P(CH₂)₈SiCl₃]₂Rh(CO)Cl.

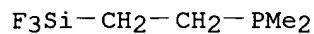
IT 52217-67-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 52217-67-1 CAPLUS
 CN Phosphine, dipropyl[2-(trichlorosilyl)ethyl]- (9CI) (CA INDEX NAME)

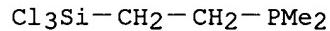
(n-Pr)₂P-CH₂-CH₂-SiCl₃

L11 ANSWER 23 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1971:510377 CAPLUS
 DOCUMENT NUMBER: 75:110377
 TITLE: Silicon-functional 2-(dimethylphosphino)ethyilsilanes
 AUTHOR(S): Grobe, J.; Moeller, U.
 CORPORATE SOURCE: Inst. Anorg. Chem., Univ. Karlsruhe, Karlsruhe, Fed.
 Rep. Ger.
 SOURCE: Journal of Organometallic Chemistry (1971), 31(2),
 157-67
 CODEN: JORCAI; ISSN: 0022-328X
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 AB Si-functional 2-(dimethylphosphino)ethyilsilanes $X_3\text{SiCH}_2\text{CH}_2\text{PMe}_2$ and $X_2\text{Si}(\text{CH}_2\text{CH}_2\text{PMe}_2)_2$ ($X = \text{F}, \text{Cl}$) are prepared by the photochem. addition of HPMe₂ to the vinylhalosilanes $X_2\text{SiCH:CH}_2$ and $X_2\text{Si}(\text{CH:CH}_2)_2$, resp. Formation of adducts between the vinylhalosilanes and HPMe₂ is observed as a competitive reaction. Starting with the solid adducts the addition of HPMe₂ to the C-C double bond occurs considerably slower. A similar coordination between $X_3\text{Si}$ or $X_2\text{Si}$ and Me₂P groups of the products leads to the formation of polyadducts besides monomers and oligomers.
 IT 33845-46-4P 33845-47-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 33845-46-4 CAPLUS
 CN Phosphine, dimethyl[2-(trifluorosilyl)ethyl]- (8CI, 9CI) (CA INDEX NAME)



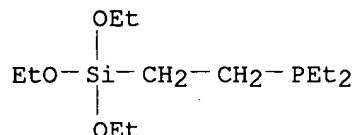
RN 33845-47-5 CAPLUS
 CN Phosphine, dimethyl[2-(trichlorosilyl)ethyl]- (8CI, 9CI) (CA INDEX NAME)



L11 ANSWER 24 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1962:410931 CAPLUS
 DOCUMENT NUMBER: 57:10931
 ORIGINAL REFERENCE NO.: 57:2247b-e
 TITLE: Synthesis of organophosphorous-substituted silanes and polysiloxanes
 AUTHOR(S): Niebergall, Heinz
 CORPORATE SOURCE: Battelle Inst., Frankfurt, Germany
 SOURCE: Makromolekulare Chemie (1962), 52, 218-29
 CODEN: MACEAK; ISSN: 0025-116X
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB R₂PH (I), R₂P(S)H (II), and R₂P(O)H (III) could be added readily and nearly quant, across the ethylenic double bond of alkenylsilanes. The addition reaction, performed in a N atmospheric did not require a solvent and was catalyzed by ultraviolet (UV) or free radical catalysts. Thus, 2.1 g. Me₂Si(CH:CH₂)₂ and 3.4 g. Et₂PH (IV) were weighed under N into a quartz tube which had been flushed with N. The reaction mixture was then illuminated with UV. Because of the exothermic nature of the reaction the light intensity was moderate initially, and was increased as the reaction progressed. The reaction was complete after 24-8 hrs., and after fractional distn, the product was obtained as an oil in 96% yield. Other reactants and yields were: Me₂Si(CH₂CH:CH₂)₂, Ph₂PH, 97%; (CH₂:CH)₄Si, IV, 95%; (CH₂:CH)₄Si, Ph₂PH, 62%; (MeO)₂Si(CH₂CH:CH₂)₂, IV, 87%;

(EtO)₃SiCH:CH₂, IV, 98%; Cl₂PhSiCH:CH₂, (Ph)2PH, 96%; Cl₂PhSiCH:CH₂, IV, 94%; Cl₂Si(CH:CH₂)₂, IV, 71; (EtO)₃SiCH:CH₂, Et₂P(S)H, 94%. The addnl, products derived from I underwent reactions characteristic of tertiary phosphines. Addition products of alkenyl alkoxy silanes and alkenyl chlorosilanes could be hydrolyzed and condensed to P-containing polysiloxanes. These polymers also resulted from addition of I, II, and III to polyalkenyl polysiloxanes.

- IT 18082-97-8, Phosphine, diethyl[2-(triethoxysilyl)ethyl]-
 (preparation of)
 RN 18082-97-8 CAPLUS
 CN Phosphine, diethyl[2-(triethoxysilyl)ethyl]- (7CI, 8CI, 9CI) (CA INDEX NAME)



L11 ANSWER 25 OF 25 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1962:60687 CAPLUS
 DOCUMENT NUMBER: 56:60687
 ORIGINAL REFERENCE NO.: 56:11622a-d
 TITLE: Organic compounds containing phosphorus and silicon
 INVENTOR(S): Niebergall, Heinz
 PATENT ASSIGNEE(S): Koppers Co., Inc.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| ----- | ---- | ----- | ----- | ----- |
| DE 1118781 | | 19591212 | DE 1959-N16250 | 19590212 |
| GB 925721 | | | GB | |

AB Phosphines, phosphine sulfides, and phosphine oxides added to the double bonds of unsatd. silanes. The reaction took place without catalysts, but free radical forming compds., ultraviolet light and tertiary amines catalyzed the reaction. Ethers and saturated hydrocarbons were solvents. Et₂PH (15.2 g.) and 10.13 g. Me₂Si(CH:CH₂)₂ were irradiated 30 hrs. with ultraviolet light under N. Distillation yielded 20.2 g. (Et₂P-CH₂CH₂)₂SiMe₂,

b3 155-60°. The following compds. were prepared (compound, b.p./mm., and % yield given): (Et₂PCH₂-CH₂)₂SiCl₂, 139-40.5°/2, 85; Me₂Si[(CH₂)₃Pt₂]₂, 170-1°/4, 97; (EtO)₃SiCH₂CH₂PEt₂, 123-4°/10, 98; [Et₂P(CH₂)₃-Si(OCH₃)₂, 182-4°/3, 79; (EtO)₃SiCH₂CH₂P(S)Et₂, 145-8°/2, 100; (EtO)₃SiCH₂CH₂P(S)Et₂, 137-40°/2, 87; Me₃Si-(CH₂)₁₂Pt₂, -, 100; (EtO)₃SiCH₂CH₂PEt₂, 178-9°/2, 78. 5; Et₂PCH₂CH₂Si(Ph)Cl₂, 126-7.5°/2, 85; [Ph₂-PCH₂CH₂]₄Si, - [m. 208-11° (benzene)], 58; [Et₂PCH₂-CH₂]₄Si, 224.5-28°/2, 91; a product from (CH₂:CHCH₂)₄Si and Ph₂PH, -, -; from Me₃SiCMe:CHMe and Et₂Ph, -, -; from PhCH:CHSiEt₃ and Et₂PH, -, -. The compds. were useful as biocides, textile auxiliaries, stabilizers, inhibitors, lubricants, lubricant additives, hydraulic oils, anti-foams, plasticizers, vulcanization promoters, and for hydrophobing and flame proofing. Cf. U.S. 2,843,615. (CA 53, 1147d).

- IT 18082-97-8, Phosphine, diethyl[2-(triethoxysilyl)ethyl]-
 (preparation of)
 RN 18082-97-8 CAPLUS
 CN Phosphine, diethyl[2-(triethoxysilyl)ethyl]- (7CI, 8CI, 9CI) (CA INDEX

NAME)

